

## **REMARKS**

Please reconsider the rejections of the claims in light of the following arguments and allow the pending claims.

The Examiner had stated in the Final Office Action that the Information Disclosure Statement filed on June 11, 2001, was received by the office, but was considered with respect to pages 1-4 only. Pages 5-9 were not considered because they contained a header that corresponded to a different application serial number, namely serial number 09/746,720. Applicants inadvertently submitted pages 5-9 of the IDS filed June 11, 2001 with an incorrect header referencing a related case's serial number 09/746,720, instead of the correct serial number for the present case, which is 09/745,499. Applicants' error was done without deceptive intent and the references submitted were the correct references for the present case.

Applicants have now corrected the header information and have re-submitted pages 5-9 of the IDS filed June 11, 2001, that is now attached with the present Response. The Examiner is respectfully requested to consider the references listed on the corrected pages 5-9 and indicate consideration of each.

Applicants thank the Examiner for the personal interview granted on July 9, 2003. As suggested during the interview, Applicants have amended claims 1, 3, 4, 13, 20, 24-26 and 37 and canceled claims 2, 5, 27 and 29 to clarify that the polymer mixture is cross-linked and selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, and vinyl acetates, and mixtures thereof.

These amendments do not introduce new matter. Specifically, the retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper

limitation is supported by the present application at multiple instances, including page 4, lines 25-28; page 5, lines 4-5; page 20-21, lines 30-31 and lines 1-2; page 25, lines 27-3; and the preamble of claim 24. The limitation of a polymer mixture that is cross-linked is supported by the present application at page 20, lines 22-26. Finally, the limitation of the polymer mixture being selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, and vinyl acetates, and mixtures thereof is supported in the present application at page 20, lines 3-12.

In the Final Office Action, the Examiner rejected claims 1-22 and 22-42 under 35 U.S.C. § 102(b) as being anticipated by each of five individual references, namely EPO 869,216 ('216); EP O 709,507 ('507); EPO 113,254 ('254); WO 90/02166 ('166); and U.S. Patent No. 5,421,898 ('898) to Cavanagh.

Applicants have mooted the rejections to '216, '507, '254, '166, and '898 in light of the amended claims. None of these references teach all the present limitations of: a method of forming an anti-microbial wiper capable of providing liquid anti-microbial solution after multiple rinse cycles, the method comprising the steps of providing a controlled release anti-microbial formulation comprising an anti-microbial agent and a cross-linked polymer mixture selected from the group consisting of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, and vinyl acetates, and mixtures thereof and that the retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper.

#### **I. The '216 patent**

The '216 patent does not disclose the presently claimed limitation of the retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper. Instead, the '216 patent discloses disinfecting the sponge or wipe itself. See '216, Example C. For example, '216 teaches the use of low-water soluble biocidal compositions. See '216, page 3, lines 53-54. The low-water soluble biocidal compositions of '216 are used for keeping the surfaces of sponges and wipes free from microbial growth. Moreover, '216 teaches that it is preferred to have biocidal compositions which exhibit increasingly lower and lower water solubilities. See '216, page 3, lines 54-58. Because of the biocidal compositions' low water solubility, any liquid that the '216 sponges or wipes leave on a hard surface would be *substantially free* of the biocidal composition and would not release enough of the biocidal composition to be an effective anti-microbial solution as claimed in the present application. Applicants claim a wiper article having an antimicrobial agent that undergoes a controlled release from a carefully crosslinked polymer and into a liquid that comes in contact with the wiper. Applicants' wiper releases sufficient anti-microbial agent into a liquid so that the liquid becomes an effective anti-microbial solution as required by the present claims. Therefore, '216 fails to anticipate, applicants' claim 1 limitations of the formulation releasing sufficient anti-microbial agent into the retained liquid after each of at least five normal cycles so that the retained liquid is an anti-microbial solution and that the retained liquid is capable of disinfecting a hard surface that is wiped with the anti-microbial wiper.

The '216 patent also fails to disclose the presently claimed limitation of a cross-linked polymer mixture and does not teach any of the polymers now recited in the

Markush grouping of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, and vinyl acetates, and mixtures thereof. In light of the differences between the disclosure of '216 and applicant's claims, the present invention is patentably distinct from the '216 patent.

## II. The '507 patent

The '507 patent also fails to disclose the limitation of the retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper.

Instead, the '507 patent teaches the prevention of microbial "biodeterioration" of the article (*e.g.* sponge or wipe) itself, but does not address microbial disinfection of a separate hard surface. See '507, page 1, lines 5-9. '507 teaches the use of a "slow release sanitiser. . . which even survives washing of the non-woven article." See page 3, lines 48-50. Thus '507 teaches that the sanitiser must remain bound to the non-woven article. In fact, the sanitiser of '507 is bound so tightly that it is capable of remaining bound even after repeated washings. See '507 page 3, Example 3.

Therefore, any sanitizer (*i.e.* anti-microbial agent) that is released onto a hard surface by the '507 article, would not be an effective anti-microbial solution as required by the claims of the present application. Applicants claim a wiper article having an antimicrobial agent that undergoes a controlled release from a carefully crosslinked polymer and into a liquid that comes in contact with the wiper. Applicants' wiper releases sufficient anti-microbial agent into a liquid so that the liquid becomes an effective anti-microbial solution as required by the present claims. Therefore, '507 fails to anticipate, applicants' claim 1 limitations of the formulation releasing sufficient anti-

microbial agent into the retained liquid after each of at least five normal cycles so that the retained liquid is an anti-microbial solution and that the retained liquid is capable of disinfecting a hard surface that is wiped with the anti-microbial wiper. In light of the differences between the disclosure of '507 and applicant's claims, the present invention is patentably distinct from the '507 patent.

### **III. The '254 patent**

The '254 patent also fails to disclose the limitation of the retained liquid is capable of disinfecting a hard surface that is wiped with said anti-microbial wiper. Instead, the '254 patent is directed to the prevention of bacterial and fungal growth on the surface of the sponge or wipe itself. See '254, page 3, lines 4-8. '254 discloses the prevention of microbial growth on the surface of a non-woven fabric and thus, requires the antimicrobial agent to remain with the fabric. See '254, page 3, lines 1-8 and 24-29. Also, '254 discloses that a fabric which releases the antimicrobial agent into a contacted liquid solution is "undesirable." See '254, page 2, lines 29-31. Thus, the entire disclosure of '254 is directed towards the prevention of microbial growth in or on the surface of the fabric itself. Like the two previous references, the '254 patent simply does not teach disinfection of a hard surface. Any anti-microbial agent that is released onto a hard surface by the '254 article would not be an effective anti-microbial solution as required by the claims of the present application. Applicants claim a wiper article having an antimicrobial agent that undergoes a controlled release from a carefully crosslinked polymer and into a liquid that comes in contact with the wiper. Applicants' wiper releases sufficient anti-microbial agent into a liquid so that the liquid becomes an

effective anti-microbial solution as required by the present claims. Therefore, '254 fails to anticipate, applicants' claim 1 limitations of the formulation releasing sufficient anti-microbial agent into the retained liquid after each of at least five normal cycles so that the retained liquid is an anti-microbial solution and that the retained liquid is capable of disinfecting a hard surface that is wiped with the anti-microbial wiper.

The '254 patent also does not teach that the polymer mixture is cross-linked. In fact, the '254 patent explicitly teaches away from a cross-linked polymer on page 2, lines 36-39 and continuing through page 3, lines 1-3. In light of the differences between the disclosure of '254 and applicant's claims, the present invention is patentably distinct from the '254 patent.

#### **IV. The '166 patent**

The '166 patent does not disclose the limitation of a cross-linked polymer mixture and does not address any benefits that would arise from cross-linking any of its polymers.

Furthermore, '166 discloses "sandwiching" solid chlorine releasing particles in an adhesive polymer between two substrate layers by using heat and pressure to melt the layers together. See '166, page 6, lines 17-21. In contrast, applicant's claim 1 requires adhering said formulation to an absorbent web. The '166 teaching of trapping "solid chlorine releasing particles" in an adhesive between to substrate layers does not anticipate applicants' claim 1 limitation of adhering an antimicrobial formulation to an absorbent web. In light of the differences between the disclosure of '166 and applicant's claims, the present invention is patentably distinct from the '166 patent.

**V. The '898 patent**

The '898 patent does not disclose any of the polymers now recited in the Markush grouping of acrylates, styrene butadiene, vinyl chlorides, methacrylates, acrylics, and vinyl acetates, and mixtures thereof. Instead, the '898 patent teaches that "polyvinyl alcohol, polyvinylpyrrolidone and poly (ethylene oxide)" are the only suitable polymers for that invention. See '898, col. 3, lines 12-23.

Because of the differences between the cited references and the presently amended claims, the present invention is patentably distinct from the '216, '507, '254, '166, and '898 patents. To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim.

Karsten Mfg. Corp. v. Cleveland Golf Co., 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001); Scripps Clinic & Research Foundation v. Genentech, Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

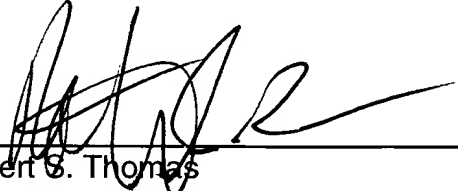
In summary, in view of the foregoing arguments and amendments, we respectfully submit that the rejected claims are patentably distinct over the references cited by the Examiner and meet all other statutory requirements. We believe that the present Application is now in complete condition for allowance and, therefore, respectfully request the Examiner to reconsider the rejections in the Office Action and allow this Application. We invite the Examiner to telephone the undersigned should any issues remain after the consideration of this response.

Please charge any additional fees that may be required to Deposit Account No. 50-2548.

Respectfully requested,

NELSON MULLINS RILEY & SCARBOROUGH

July 30, 2003  
Date



---

Robert S. Thomas  
Registration No. 52,284  
Keenan Building, Third Floor  
1330 Lady Street  
Columbia, SC 29201  
Phone: (864) 250-2298  
Fax: (803) 250-2394